

# **S. S. Jain Subodh PG College, Jaipur(Autonomous)**

**M.Sc. AI & DS II Semester**

**Paper Code:MSAIDS204:**

**Paper Name: Fundamental of AI, Machine Learning and Data Science**

**Assignment March 2026**

**Instruction to Students:** Attempt any **four** questions selecting **at least 1** question from each unit.  
Write answer in at least **500 words**.

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## **Unit I**

1. What is AI ? Explain application areas of Artificial Intelligence
2. Explain the following(**any two**)-
  - a) Problem characteristics
  - b) Water Jug Problem using state space search
  - c) Tower of Hanoi Problem using state space search

## **Unit II**

1. What is Heuristic Search method ? Explain hill climbing problem with its limitation.
2. Explain the following (**any two**)-
  - a) Generate and test
  - b) Best search method
  - c) Predicate logic

## **Unit III**

1. What is Machine Learning ? Explain importance and types of Machine Learning.
2. Explain following Learning algorithms:  
Linear Regression, Logistic Regression, Decision Trees, k-Nearest Neighbors,

## **Unit IV**

1. What is Data Science ? Explain importance of Data Science.
2. Explain statistical analysis, data visualization techniques

**S.S. Jain Subodh P.G. College, Jaipur (Autonomous)**  
**MSc-IT-I (AI & DS)**  
**Subject: Big Data Analysis**  
**Paper Code: MSAIDS205**

**ASSIGNMENT**

**Instructions to students:** - Attempt any **four** questions.

**UNIT-I**

1. Describe the major applications of Big Data. Explain how Big Data is used in web analytics and digital marketing, highlighting the benefits and challenges in each area.
2. What are Data Streams? Explain the concept of stream data, stream data models, and stream computing architecture.

**UNIT-II**

3. Explain Hadoop Streaming and Hadoop Pipes.
4. Describe crowd sourcing analytics and inter and trans firewall analytics with suitable examples.

**UNIT-III**

5. Explain the evolution of Big Data technologies. Describe the dawn of Big Data and discuss the limitations of traditional relational database systems that led to the development of tools like HBase.
6. Explain Apache Cassandra as a NoSQL database.

**UNIT-IV**

7. Describe simple linear regression and multiple linear regression, and explain how regression models are used for prediction with suitable examples.
8. Explain MapReduce applications and workflows.

**S. S. Jain Subodh P.G. (Autonomous) College, Jaipur**  
**M.Sc. IT II Semester**  
**Web Designing & Development (PMIT203)**  
**Assignment**

1. Write Short notes on-
  - b. World Wide Web (WWW)
  - c. Web Server & Web Client
2. a) Lists    b) Text Formating tag

**Unit-II**

3. Explain Different Type of style sheet in CSS with examples.
4. Describe with example–
  - a. Tables

**Unit-III**

5. What are the different types of JavaScript Operators? With an example.
6. Explain DataTypes & Array in Java script.

**Unit-IV**

7. What is a form validation? What are the major attributes of the form? Explain any six form validation components with example.
8. Explain various events in Java script.

**S. S. Jain Subodh P.G. (Autonomous) College, Jaipur**  
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**S. S. Jain Subodh P.G. College, Jaipur**  
**M.Sc. (IT)-II Semester**  
**Object Oriented Programming Concepts**  
**using Java Programming (MSIT-201)**  
**Assignment**

*Attempt any four questions selecting one from each unit. Each question carries equal marks.*

**Unit-I**

1. Explain different concepts of OOPs.
2. Briefly discuss different features of Java.

**Unit-II**

3. What do you understand by packages? How do we create and use packages in java? Explain.
4. What are interfaces? Explain in detail with suitable examples.

**Unit- III**

5. Briefly discuss Exceptions handling in Java? Also explain differences between throw and throws keywords.
6. What are applets? Describe Applet life cycle with suitable example.

**Unit- IV**

7. Write a note on database handling in Java.
8. What is multithreading? How do we implement multithreading in Java? Explain.

**S. S. Jain Subodh P.G. College, Jaipur**  
**M.Sc.IT (AI & DS)-II Semester**  
**Object Oriented Programming Concepts**  
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**S. S. JAIN SUBODH P.G.(AUTONOMOUS) COLLEGE,  
JAIPUR**

Affiliated to University of Rajasthan, Jaipur

**Msc. IT Semester II, March 2026**

**Assignment**

**Subject: Data Communication and Computer Network**

**Paper Code: PMIT 205**

**Max. Marks: 20**

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**Instructions to the Candidates**

NOTE: Attempt any four questions and one question from each unit  
30 Marks

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**Unit - I**

- 1) What do you mean by Computer Network? Explain type of Networks.
- 2) Explain Data Communication System along with Mode of Communication

**Unit - II**

- 3) What do you mean by Network Topology? Explain all type of Topologies in detail.
- 4) Explain all type of Guided Media.

**Unit – III**

- 5) Explain OSI Model.
- 6) Explain Asynchronous and Asynchronous Transmission.

**Unit – IV**

- 7) Explain following
  - a) Switches
  - b) Router
  - c) Bridge
- 8) Explain following
  - a) SMTP
  - b) FTP
  - c) Broadband

# **S. S. Jain Subodh P. G. College, Jaipur (Autonomous)**

Affiliated to University of Rajasthan, Jaipur

## **M.Sc. IT II Semester Data Structure and Algorithms(MSIT202) ASSIGNMENT**

**Instructions to Students:** Assignment consist of 8 questions. Students are required to attempt any 4 Questions, selecting at least one question from each unit.Each Question carries equal marks.

### **UNIT - I**

1. Write an algorithm and program to create an array of n integer elements and apply insert operation on it. [5]

**OR**

2. Write an algorithm and program to create an array of n integer elements and apply delete operation on it. [5]

### **UNIT – II**

3. Write algorithmsto create a link list and apply operations such asinsert at the beginning and insert afterin the given link list. [5]

**OR**

4. Write algorithms to sort an array through Bubble Sort and Insertion Sort technique. [5]

### **UNIT - III**

5. Write algorithms to perform the operations like - push, pop and show elements in a stack through array. [5]

**OR**

6. Write algorithms to perform the operations like - insert, delete and show elements in a linear queue. [5]

### **UNIT - IV**

7. Write an algorithm to create a binary search tree and perform operations like in-order, pre-order and post-order traversal of binary search tree. [5]

**OR**

8. Write an algorithm to perform BFS and DFS on graphs. [5]

# **S. S. Jain Subodh P.G. College, Jaipur(Autonomous)**

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## **M.Sc.IT II Semester Data Structure and Algorithms(MSIT202) ASSIGNMENT**

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# **S. S. Jain Subodh P. G. College, Jaipur (Autonomous)**

Affiliated to University of Rajasthan, Jaipur

**ASSIGNMENT, MARCH, 2026**

**Programme - M.Sc. IT Semester II**

**Subject - Management Information System**

**Paper Code - MSIT204**

**Name of the Paper Setter - Dr. Mamta Sharma**

## **UNIT – I**

Q.1. Explain System Analysis and Design and the Systems Development Life Cycle (SDLC).

Q.2 Explain sub-systems of Information Systems and management levels: EDP, MIS, and DSS.

## **UNIT II**

Q.3. Explain MIS Planning, its structure, components, features, and developmental strategies.

Q.4. Explain system objectives and system constraints in MIS design.

## **UNIT III**

Q.5. Explain Detailed System Design and Implementation of MIS.

Q.6. Discuss the role of end-users, MIS department, system analyst, and top management in MIS implementation.

## **UNIT IV**

Q.7. Explain advanced MIS system concepts: TPS, OAS, DSS, EIS, AI, and Expert Systems.

Q.8. Explain MIS applications in Accounting, Finance, Personnel, Marketing, and Production systems.

# **S. S. Jain Subodh P.G. College, Jaipur**

**Affiliated to University of Rajasthan, Jaipur**

**M.Sc.IT IV Semester**

## **PMIT402 Elective Paper I: Artificial Intelligence and Expert Systems ASSIGNMENT**

**Instructions to Students: Assignment consist of 8 questions. Students are required to attempt 4 Questions (1 from each Unit). Write questions in at least 500 Words with good presentation. Each Question carries equal marks.**

### **UNIT - I**

1. Write short notes on:
  - i. Artificial intelligence
  - ii. state space
  - iii. Production system

**OR**

2. Describe depth first, breadth first search methods

### **UNIT - II**

3. Explain Knowledge Representation in A.I.

**OR**

4. Write short notes on:
  - i. constraint satisfaction
  - ii. predicate calculus
  - iii. hill climbing

### **UNIT - III**

5. Describe Fuzzy logic concept in A.I.

**OR**

6. Explain Baye's theorem in detail.

### **UNIT - IV**

7. Describe Concept of learning in A.I. in detail.

**OR**

8. Explain Expert System in detail.

# **S. S. Jain Subodh P. G. College, Jaipur (Autonomous)**

Affiliated to University of Rajasthan, Jaipur

**ASSIGNMENT March 2026**

**Programme - M.Sc. IT Semester IV**

**Elective Paper II**

**Subject: CLOUD COMPUTING**

**Paper Code - MSIT402**

**Name of the Paper Setter - Dr.Mamta Sharma**

## **UNIT – I**

Q.1 Explain Grid Computing and Mobile Computing as roots of Cloud Computing.

Q.2 Define Cloud Computing. Explain its features and advantages in detail.

## **UNIT – II**

Q.3 Explain Cloud Deployment Models with suitable examples.

Q.4 Explain Cloud Service Models: RaaS, IaaS, PaaS, and SaaS with examples.

## **UNIT – III**

Q.5 Explain Platform-as-a-Service (PaaS) with reference to Google App Engine, Microsoft Azure, and Salesforce Platform.

Q.6 Explain SaaS and discuss the Salesforce software environment in detail.

## **UNIT – IV**

Q.7 Explain Resource Scheduling in Cloud Computing with VM provisioning and migration services.

Q.8 Explain Cloud Applications, Cloud challenges, and Cloud security and privacy issues.